

WATER LINES

NEWS FROM THE WATER RESOURCES DIVISION
OF THE MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

THE BEAN LAKE III DECISION: *THE IMPLICATIONS*

By Curt Martin and Dan Bushnell, DNRC

In recent weeks, a Montana Supreme Court decision has been much in the news and discussed in private and public forums. This decision, commonly called the Bean Lake III decision, has been critiqued for the far-reaching impact it is purported to have upon our existing water rights system. As the agency with water rights responsibilities in Montana, the Department of Natural Resources and Conservation (DNRC) would like to help provide some context and clarify certain facts about the practical implications of the case.

The Supreme Court focused on whether the instream or inlake water rights for fish, wildlife, or recreation that have already been filed could proceed in the ongoing Montana Water Court general water rights adjudication, or whether they should be dismissed because of the lack of a diversion, impoundment, or "capture" of the water. The issue was not whether such instream flow rights for fish, wildlife, or recreation are superior to all other water rights, or whether any such new "senior" rights should be established.

The Prior Appropriation Doctrine, which has been in place in Montana since 1865, continues to be the law in the adjudication and administration of water rights today. The Supreme Court's decision is based on this doctrine. The Prior Appropriation Doctrine is not a preference system. No type of water use is superior to another. The doctrine and the ruling are based simply on "first in time is first in right," regardless of the purpose of the use. Therefore, the ruling did not take away any existing water rights. Any instream or inlake rights that are ultimately recognized by the Water

Court will carry a priority date, and will be administered according to that priority date just like any diversionary water right.

In the Bean Lake III decision the Supreme Court found that fish, wildlife, and recreation claims with a diversion could be valid. It also found that claims where no diversion is physically necessary, such as fish, wildlife, and recreation claims and stock-watering claims, can also be valid "when the facts and circumstances indicate that notice of the appropriator's intent has been given."

The potential impacts that result from this decision are summarized below.

Claim Type	Total Claims
Total Claims - All Purposes	220, 000+
Claims for - Fish, Wildlife, or Recreation Purpose	13, 415
Physical Means of Diversion or Impoundment	9,185
Possibly No Physical Means of Diversion or Impoundment	4,230
Direct from the Source - Wildlife	3,510
BLM	3,270
Other "Instream Flow"	720
Private	422
State Government	153
DFWP	151
Board of Land Commissioners	2
Murphy Rights	106
Other DFWP	45
Federal Government	145

Of the over 220,000 claims that were filed statewide, 13,415 claimed some type of fish, wildlife, or recreational purpose. Of those, 9,185 identified some type of physical diversion,

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(Bean Lake continued from page 1)

impoundment, or capture of the water, such as by dams, ditches, or pipelines.

Most of the remaining 4,230 claims have not yet been examined by the DNRC. Often, examination of these claims and further discussions with the claimants reveal that there was some physical manipulation of the water, such as a spring development, dam, or excavation, that was not reported on the original claim form. Therefore, the number of actual “instream flow” claims will eventually be less than 4,000.

In fact, 3,510 of those 4,230 claims identify wildlife drinking “directly from the source” and may be overlapping with instream livestock-watering rights. Most (3,270) of these were filed by the U.S. Bureau of Land Management (BLM) in north central and northeastern Montana for water out of small pits and some natural potholes.

That leaves a total of 720 claims that may be equated as “typical” for instream flows or inlake water levels. Four hundred twenty-two of the 720 “typical” instream flow claims were filed by private parties, and are questionable because language in the statutes, as well as the Bean Lake III decision, appears to limit those who could file these types of water right claims to the Montana Department of Fish, Wildlife and Parks (DFWP), and possibly federal agencies.

That leaves 298 government instream and inlake claims, of which 106 are based on “Murphy Rights.” If you recall, Murphy Rights are the water rights created by the legislature with priority dates in the early-1970s to protect instream flows for

fisheries on 12 of Montana’s most pristine “Blue Ribbon” rivers. Those 12 streams are Big Spring and Rock Creeks; the Blackfoot, Gallatin, Madison, Smith, Upper Missouri, Upper Yellowstone, and Flathead Rivers; and the North, South, and Middle Forks of the Flathead.

The remaining 192 claims may have been granted new life by the Bean Lake III decision. A quick review of 45 of those filed by DFWP shows that three relatively large rivers are involved, including the Bighorn below Yellowtail Dam, the Beaverhead below Clark Canyon Dam, and the Bitterroot. In the case of the Bighorn and Beaverhead, the rights may be associated with the creation of the federal dams and are therefore associated with “diversions.” In other cases, the DFWP claims appear to be mostly associated with high mountain lakes, fish trap stations, lakes or springs on wildlife management areas, and most of the lakes in the Blackfoot and Clearwater River drainages. These all claim fairly recent priority dates, and therefore have little potential for affecting most senior water rights.

Similarly, most of the claims filed by the federal government are for areas on U.S. Forest Service land upstream of private lands and diversions. Thus, leaving the water in the stream will allow it to flow to the senior, diversionary users.

The Bean Lake III decision also requires the claimants to prove that these water rights met other requirements. It will not be enough to show that the water was used for fish, wildlife, or recreation. The claimant will



have to prove that there was an actual intent to develop a water right for these purposes. It is a common requirement under the Prior Appropriation Doctrine that other water users were provided notice of the intent and the opportunity to seek legal recourse for adverse effects caused by the creation of new water rights. Proving this intent may not be easy.

There will be some instances where these instream flow claims will result in a reduction in the amount of water available for junior water right holders.

The Bean Lake III decision also provides a positive benefit for stock water rights. For the first time since 1865, the Montana Supreme Court has made a clear statement that stock drinking from a stream establishes a water right without the need for a man-made diversion.

The decision may also have implications for future water policy. But this decision does not pose the type of general, statewide threat to the ongoing statewide adjudication, or all existing water rights, as may be feared. We need to keep these facts in context as we attempt to deal with changing and increasing demands for historical, new, and varied water uses. 💧

TRASH RAKE REPLACED AT THE BROADWATER POWER PROJECT

By Walt Anderson, DNRC

The department completed the installation of a new trash rake machine at the Broadwater Power Project last year. The trash rake's function is to clean the intake racks of river debris too large to pass through the turbine. For Broadwater, this means that all debris larger than 3 inches in diameter is strained from the river before it enters the turbine by passing the flow through a set of trash racks with 3-inch bar openings.

The original existing trash rake was designed to reach to the bottom of the racks, through water about 55 feet deep, and drag the racks in an upward direction, thereby scraping debris to the surface. From there, debris was dumped onto a conveyor that transferred it to a point near the first spillway bay. The operation required constant operator surveillance and manual labor with chain saws and hand rakes, and operators were exposed to severe weather and water conditions.

The original system was purchased under a low-bid contract in 1989. By the year 2000, the machine had been severely weakened structurally. Although the machine was still operating, it was clearly at the end of its useful life. Evaluating

its true usefulness, safety, and the impacts to power generation as a result of its inadequacies made a strong case for its replacement.

In the fall of 2000, the Broadwater operation and maintenance crew began the process of replacing the existing trash rake. Rather than procure a replacement under a low-bid

sediment accumulation each year. Trash rake manufacturers approach the problem with about five or six basic designs, varying in quality of manufacture. The Broadwater staff believed it was imperative that the decision be performance-based rather than cost-based, and that the staff's 12 years of experience

working on the river should be relied on heavily in order to make the correct decision. A purchase budget was established by analyzing past operating data and estimating losses due to trash obstructing the delivery of water to the turbine. Funding authorization was acquired, and the RFP documents were issued in March 2001. The three proposals

received were evaluated and scored according to established criteria published in the RFP documents. Kuenz America, whose base of operations is in Austria, was selected and awarded a contract for \$434,000.

It was hoped that the new machine would be manufactured in time for fall installation. Problems with insurance requirements postponed the installation until May 2002,



*Trash rake machine at the Broadwater Power Project
- Photo by Walter Leiler, Kuenz America*

approach, staff argued successfully that the project qualified for a Request for Proposal (RFP) approach under the Montana Procurement Act. The reasons for this approach are many, but the primary justification was that the complexity of the project required a custom-designed solution. Turbine intake configurations are many, and the type and size of river debris are also quite variable from site to site. In addition, the Broadwater intake was experiencing serious

(Continued on page 4)

BAIR AND NEVADA CREEK DAM REHABILITATIONS MAKING GOOD PROGRESS



New Spillway Construction at Bair Dam

By James Domino, DNRC

The rehabilitation projects at Bair and Nevada Creek (Phase I) Dams have been completed.

Bair Dam Phase II was delayed for several weeks by a slope failure above the spillway. The installation of a new spillway has been completed. Site restoration and reclamation work are currently under way. The project was completed in December 2002. Phase II included a new concrete spillway, access roads, and a 3-foot embankment raise.

The Nevada Creek Dam Rehabilitation Phase I was completed in December 2002. Smith Construction of Butte, Montana, was awarded the Phase I contract. Phase I construction included an outlet extension, materials processing, toe berm, drain system, and dewatering wells. Phase II at Nevada Creek, the new concrete spillway, will be contracted next year. 💧



Nevada Creek Dam Rehabilitation - Outlet Excavation

(Trash Rake continued from page 3)

however, the trash rake was in place for spring runoff.

The new machine is a prototype design, but relies on proven technology. Essentially, it's a robotic excavator arm and gripper rakehead mounted on a rail-supported trolley. The machine is capable of lifting 9,000 lbs. at the intake racks, has a horizontal reach of 74 feet, and has 270 degrees of rotation. It is easily capable of reaching the required 55 feet of water depth and dragging the intake bottom for some distance upstream of the trash racks. These mechanical features enable the machine to handle all debris, from full-sized cottonwood trees to the finest sediment, and move it from the intake to downstream of the dam.

As a result, the plant has been operating at optimum power-generating levels since its installation, and, for the first time in 13 years, it was unnecessary to dredge the turbine intake after spring runoff. Improvement in plant efficiency directly attributable to the new machine will allow payoff of its purchase price in roughly five to six years, depending on streamflow conditions. After that, the improved efficiency will mean more funds for fixing dams. Most importantly, plant operators are much safer performing the work, and those long hours during spring runoff aren't so long anymore. 💧

WATER RESOURCES DIVISION MOVE

By *Cindy Forgey, DNRC*

In March of 1996, the DNRC Water Resources Division moved from the Metcalf building on the capitol complex to its current location downtown on the walking mall. Six years later we're moving back across town to our new home at 1424 9th Ave., just down the street from DNRC's headquarters. Our new location was formerly the headquarters of the Montana Department of Commerce. Department of Administration, General Services Division, has hired Karhu-Cullen Architects who have prepared structural, electrical and mechanical drawings. Remodeling has begun and we expect to be in our new location in March of 2003. The Water Resources Regional Office will be moving into this location also.

We've enjoyed being downtown and will miss the



good coffee and excitement of the downtown area. But there are many positive sides to our move such as: more space, co-locating with the regional office, much closer to the main DNRC

building, and easier accessibility for the public. Maybe the most important benefit of the move will be to the Montana taxpayers, as our costs will be reduced by more than half. 💧



WATERLINES ON THE WEB

By now you've probably heard that the State is faced with a severe budget crisis this year. As with other departments, the DNRC Water Resources Division will be facing some budget shortfalls. We need your help in cutting costs. We will continue to develop a newsletter on a quarterly basis, but are asking those with Internet access to view Water Lines on the web versus receiving a hard copy.

We are currently developing an e-mail address list to notify readers when the newest issue has been posted on the Web. We will send you a message containing to a link that will take you directly to the newsletter on our homepage at <http://www.dnrc.state.mt.us/wrd/home.htm>. If you'd like to be added to this list, please send your e-mail address to cforgey@state.mt.us

We hope to continue producing Water Lines, and appreciate any help you can give us to get through this budget crisis. 💧

THE MONTANA WATERCOURSE: EDUCATION FOR EVERYONE

By Karen Filipovich, DNRC

The Montana Watercourse has a mission to educate all adult and youth water users in the state. As former director Mary Ellen Wolfe pointed out, it “is really the only statewide water resource education program that provides both materials and training focused on Montana’s water resources for both youth and adults.” The program acts as a bridge between the technical expertise in the agencies and the thirst for understanding in our communities and schools.

DNRC has been instrumental in the formation and continued operation of the Montana Watercourse. According to Rich Moy, chief of DNRC’s Water Management Bureau, DNRC has “a clear policy statement in the law (MCA 85-1-101) mandating a State Water Plan to improve water management in the state.” The State Water Plan itself also recommends improving the general knowledge of water issues. In 1989, Moy and Dennis Nelson, director of The Watercourse on the Montana State University (MSU) campus, co-founded the Montana Watercourse as part of an overall effort to address these concerns. It was conceived as an entity with no stake in any watershed or political position.

Situated on the MSU campus, the Montana Watercourse is a hybrid between DNRC and MSU. The director, Karen Filipovich, is an employee of the DNRC Water Resources Division; the other staff members are MSU employees. This hybrid gives the program the ability to capitalize on the resources of the

university and broader education community while its mission ensures that it will always serve all water users.

The Montana Watercourse’s adult, community education efforts are directed to the specific topics and needs of landowners and other water users throughout the state. Its projects include water rights workshops and a book, wetlands workshops and publications, volunteer water quality monitoring, education on water management, and helping people understand their watersheds and establish local watershed groups. Support for established watershed based efforts through work on the Montana Watershed Coordination Council and with individual groups is also part of its ongoing role in providing informational, educational, and support services to all water users. The program works with other collaborators to create interest, understanding, and action, and it brings in the technical expertise that is available from a wide array of experts at state and federal resource agencies, local conservation districts, and many other local groups to a broader audience.

One example of this collaborative approach is the Know Your Watershed Program. Filipovich, the Montana Watercourse director, administers the program. She has taken a strong role in promoting the Know Your Watershed approach, and supports watershed efforts

through such activities as working with the Montana Watershed Coordinators Council and facilitating watershed groups. The Montana Watercourse works with local sponsors like conservation districts and other stakeholders to develop an event specially tailored to address the scientific and socio-economic issues in a specific watershed. The neutral workshop setting gives citizens a way to learn about their watershed and a forum to discuss common interests and sources of conflict. In addition to the immediate educational value, most of the 14 workshops held in Montana have resulted in the formation of a watershed group that actively plays a role in determining management priorities and options in each watershed.

In addition to the program for adults ranging from landowners to watershed groups, Montana Watercourse also runs a program designed to educate our stewards of tomorrow. This WET (Water Education for Teachers) program provides K-12 and teacher education so Montana’s youth have a strong foundation of water knowledge. The Montana WET Coordinator delivers WET and other water education curricula and promotes water resources education to teachers through workshops, water festivals, and watershed tours (week-long, graduate-level courses on rivers like the Clark Fork, Blackfoot, and Upper Yellowstone).

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WATERCOURSE HIRES NEW DIRECTOR

Karen Filipovich was recently hired as the Director of the Montana Watercourse located in Bozeman on the MSU campus. As a Montanan, she came to an early appreciation of the importance of natural resources. As an undergraduate at Willamette, she studied Biology and Political Science because she really liked both plants and people. After a return to Montana, including a stint with Montana Conservation Corps, she completed a Master's degree in Public Policy, specializing in environmental and natural resources policy, from Harvard University. After graduating, she continued to work at the university, researching and writing on a range of national and international energy, environment, and natural resources issues. When not working on water resource education, Karen likes to spend as much time on the water, in

the mountains, and otherwise enjoying Montana's outdoors.

The Montana Watercourse is the only statewide educational program focused on providing education, information and support to both youth and adults on water resource issues. Giving all water users the information they need to make wise decisions and participate in water resource decisions that affect their lives is the goal. For adults, help and support designed to provide information that can be used as a basis for immediate action or in the process of decision-making is stressed. For youth, the program works with teachers to train them in activities and to provide tools that can be used to teach students the water knowledge necessary for future



Karen Filipovich

stewardship. Water is probably the single most important resource issue facing Montana in this century. Montana Watercourse will continue working in partnership with other agency professionals, private organizations, local governments, schools, and citizens to ensure good stewardship of Montana's waters for this and future generations. 💧

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The program is loosely affiliated with four other programs under the umbrella of "The Watercourse Center" in Bozeman, and a fifth associated program is based in Colorado. The Bozeman-based programs are listed below.

- Project Archeology develops an archeology-related curriculum for grades 3-12.
- Healthy Water, Healthy People provides water quality testing kits for grades K-12.
- Native Waters promotes respect for tribal water resources through the establishment of community- and reservation-based water and youth leadership programs.
- Project WET (Water Education for Teachers) an international water education program headquartered in Bozeman. It develops curricula and other teaching materials aimed at K-12 students. These materials are delivered to teachers through a network of state WET coordinators, who develop state-specific water education programs.

- The Montana Watercourse develops and provides water-related education to the general public; youth and adults are served equally. It is the only Watercourse Center program that focuses exclusively on Montana, and it the only program that offers services to adults and youth.

The Montana Watercourse is always seeking new opportunities to collaborate with natural resource experts to identify and meet water resource education needs. It is looking for ways to work together effectively and efficiently to ensure that all water users have the information and tools they need to act as responsible stewards of our waters. 💧

To learn more about the Montana Watercourse, or to discuss an idea for a cooperative project, call 406-994-6671, or visit the website at www.mtwatercourse.org.

LINGERING EFFECTS OF MONTANA'S DROUGHT CAUSE FOR CONCERN

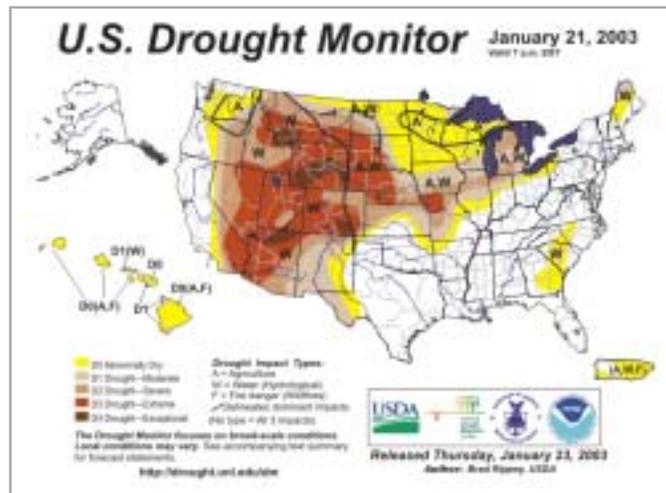
By Jesse Aber, DNRC

Depleted groundwater aquifers, lagging soil moisture, and low streamflow across much of the state prevented the Governor's Drought Advisory Committee from declaring the current three-year cycle of drought over at its October 24, 2002 meeting at the Capitol in Helena. Added to reports of lingering drought impacts and deepening drought in some areas of the state was a report by the National Weather Service that a moderate El Nino climate event, unfolding in the eastern Pacific Ocean may bring warmer and drier conditions to Montana this winter. The weather service noted that the recent water year, the period of October 1, 2001, through September 30, 2002, was the 63rd warmest and 24th driest of the 107-year period of record. The north central region received above normal precipitation at high elevations, along the Rocky Mountain Front, beginning in early March with mountain snowpack accumulating as late as early July in Glacier Park. Two storms dumped upwards of 12 feet of snow near East Glacier on June 7 and 8, and a moist system centered near the international boundary and north Toole, Liberty, Hill, and Glacier Counties produced from 4 to 8 inches of rain with Pincher Creek, Alberta receiving 12 inches! Swollen rivers filled depleted reservoirs, such as

Fresno Reservoir on the Milk River, in just a few days. Valley locations in the north central and central regions continued to receive regular precipitation throughout early summer, but the committee was told that long-term deficits in soil moisture would need as much as two years of average to above average precipitation to recover from the current drought cycle. After several years of extreme

liquidated up to 200,000 head of cattle in 2000 and 2001 for want of water and forage, so the replenishing of small reservoirs was a relief to many. The northwest region had accumulated a near average mountain snowpack over the course of the winter as storms off the Pacific Ocean worked inland to areas west of the Continental Divide in January and February. By spring, as rain fell on the mountain snowpack day after day, reservoir operators had to work hard to keep storage space available for a sudden and large runoff event. Although localized flooding occurred along the lower Clark Fork River and small streams and creeks, relatively little damage occurred. The weather service presented the committee with graphs indicating current cumulative precipitation deficits

amounting to over 20 inches, dating to 1994 and 1996, at such geographically dispersed locations as Whitefish, Fort Benton, and Wyola. In contrast, stations at Terry, Ingomar, and Superior indicate current precipitation totals for the same periods of 10 inches or more above average, illustrating significant disparities within climate divisions. A number of locations in the southeast and southwest climate regions ended the water year below 70 percent of normal. Across the state's entire southern



drought and up to five years of precipitation deficits, the soil profile was unable to take up moisture at the rate it was received, and subsoil moisture deficits persisted. Much of the spring and early summer rains came in large amounts over very short periods, causing it to run off to low areas before it had time to soak into the subsoil layers. Although it could not fully address the lingering subsoil moisture deficit, the runoff filled hundreds of parched stock water ponds and small reservoirs. Stockmen had moved or

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tier, precipitation shortfalls dating to the mid-nineties, compounded by severe drought conditions in 2000 and 2001, were followed by another winter of below average mountain snowpack in the headwaters of the Missouri and Yellowstone rivers. According to the U.S. Geological Survey, record low flows were recorded for the second consecutive summer on tributaries of the lower Yellowstone River that flow north from Wyoming, where drought conditions were extreme this year. In southwest Montana, Lima and Lakeview finished the water year with 64 percent and 68 percent of normal precipitation, according to the weather service. Nearby Clark Canyon Reservoir continues to languish at a paltry 16,900 acre-feet of water as of October 1, compared with 128,500 acre-feet October 1, 1999, when it last had average contents.

In August, limited and spotty relief was seen from blistering summer temperatures and low precipitation in southeast Montana, with the arrival of tropical monsoon moisture tracking north from the Gulf of California. But it was not enough to make a difference at Yellowtail Reservoir on the Bighorn River where, according to the U.S. Bureau of Reclamation, contents are only 60 percent of average at 635,000 acre-feet, compared with 1,053,200 acre-feet on October 1, 1999, when it last held average contents. Recreation at Yellowtail Reservoir ground to a halt this summer when boat ramps were left high above the falling lake level, down more than 40 feet in elevation according to Reclamation. Billings ended the water year with only 63 percent of average precipitation, over five inches short of normal.

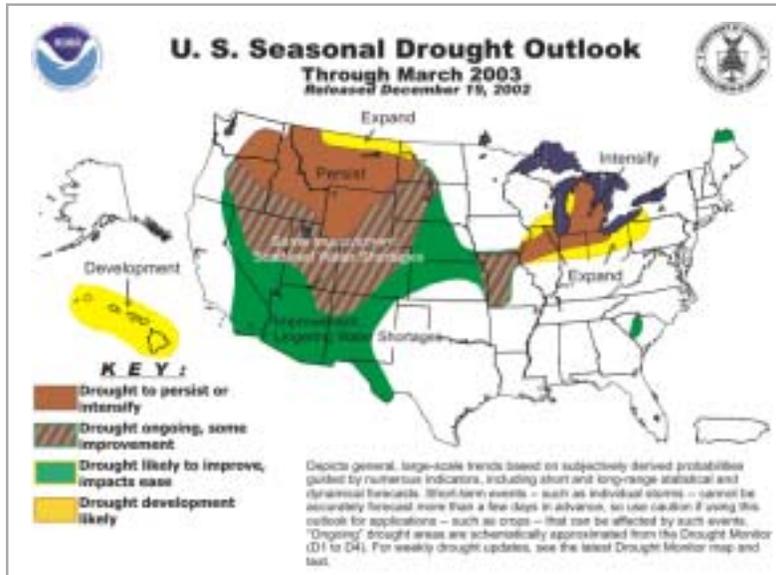
Northwest Montana, where a normal mountain snowpack last winter supported average streamflow this summer following drought conditions in 2000-2001, saw moisture conditions slip by July and August and into the fall. The November 19 Drought Monitor map shows that

parts of northern Idaho, eastern Washington, and western Montana are classified as “Moderate” to “Severe,” indicating the recent absence of moisture from the Pacific Ocean in the area. Parts of the northeastern area of the state also saw a drying trend by late summer, although the drought had not been as severe over the past two years there as elsewhere in the state.

The committee had indicated marked improvement in the drought status of a number of counties over the course of the summer, downgrading many from the “Severe Drought” to “Drought Alert” status, which is the lesser in severity of the two levels identified in the state’s drought plan. However, improvement in moisture and water supply in most regions stalled as moisture fell below average in late summer and early fall. With the weather

service reporting a good likelihood of a “mild” El Nino event this winter, the committee decided to classify the conditions statewide as “Continuing Drought.” El Nino events are likely to produce warmer temperatures and drier conditions for Montana, especially at low elevations. However, it is not uncommon to see an average mountain snowpack during El Nino, according to the weather service.

Since the October meeting, National Weather Service month-end data for October and November confirm the classification decision of the committee. Only the north-central and northeast regions were even close to normal for October, receiving 80 and 79 percent of normal precipitation, respectively. West of the Continental Divide, moisture conditions continued slipping, with a mere 18 percent of average for the month. Kalispell received only 8 percent, and Missoula 24 percent of average October precipitation. Valley locations typically receive about an inch of precipitation during the month of October.



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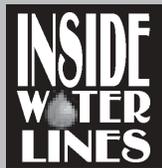
The central region averaged about 75 percent, and the southcentral 66 percent, for October precipitation. The southwest and southeast climate regions saw little, if any, improvement in relentless drought conditions, with only 28 percent and 30 percent of average precipitation for October. Bozeman closed out the first month of the new water year with only 9 percent of average precipitation. In the southeast region, Baker received a modest 22 percent of average and Miles City 41 percent of average precipitation, according to the weather service. Through November 22nd, the weather service reports that dryness continues west of the Divide, with Butte at 7 percent, Missoula 15 percent, and Kalispell at 66 percent of average November precipitation. Southwest

Montana continues its dry trend of early fall with Ennis and Helena receiving only 2 percent and 5 percent, respectively, of normal thus far in November. Other locations in the southwest average only about 25 percent so far in November. Central region locations are almost all below 10 percent of average for November with the exception of a few locations in the northern edge of the division. It seems as though El Nino is already having its impact on moisture received at valley locations across much of the state. The drought committee will be closely monitoring the mountain snowpack in coming weeks, hoping to see the accumulation stay on track with the 30-year average. Records of the U.S. Natural Resources Conservation Service's Snow Survey indicate

that, on average, about 50 percent of the state's mountain snowpack should be in place by mid-January and about 70 percent by mid-February, providing water resource planners with a good indication of the seasonal water supply. The committee is planning to meet again in February to assess and report the water supply outlook for 2003. 💧

The committee is requesting public comment regarding the state's drought program. The committee's Drought Monitoring Internet site can be found at: <http://nris.state.mt.us/drought>

Comment can be sent to the committee's staff at: jaber@state.mt.us, or call Mr. Jess Aber at (406) 444-6628.



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1,600 copies of this document were published at a total cost of \$805.60 which includes \$460.00 for printing and \$345.60 for distribution.

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